

Differentiation - Natural Logs and Exponentials

Differentiate each function with respect to x .

1) $y = \ln x^3$

2) $y = e^{2x^3}$

3) $y = \ln \ln 2x^4$

4) $y = \ln \ln 3x^3$

5) $y = \cos \ln 4x^3$

6) $y = e^{e^{3x}}$

7) $y = e^{(4x^3 + 5)^2}$

8) $y = \ln 4x^2 \cdot (-x^3 - 4)$

9) $y = \ln \left(-\frac{4x^4}{x^3 - 3} \right)^5$

10) $y = \frac{e^{5x^4}}{e^{4x^2 + 3}}$